Complete Summary

GUIDELINE TITLE

Postmastectomy radiotherapy: clinical practice guidelines of the American Society of Clinical Oncology.

BIBLIOGRAPHIC SOURCE(S)

Recht A, Edge SB, Solin LJ, Robinson DS, Estabrook A, Fine RE, Fleming GF, Formenti S, Hudis C, Kirshner JJ, Krause DA, Kuske RR, Langer AS, Sledge GW, Whelan TJ, Pfister DG. Postmastectomy radiotherapy: clinical practice guidelines of the American Society of Clinical Oncology. J Clin Oncol 2001 Mar 1;19(5):1539-69. [253 references]

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Breast cancer

GUIDELINE CATEGORY

Management
Treatment

CLINICAL SPECIALTY

Oncology
Radiation Oncology
Radiology

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

To determine indications for the use of postmastectomy radiotherapy (PMRT) for patients with invasive breast cancer with involved axillary lymph nodes or locally advanced disease who receive systemic therapy.

Note: These guidelines are intended for use in the care of patients outside of clinical trials.

TARGET POPULATION

Patients with invasive breast cancer with involved axillary lymph nodes or locally advanced disease who receive systemic therapy and who have undergone mastectomy.

INTERVENTIONS AND PRACTICES CONSIDERED

Postmastectomy radiotherapy

MAJOR OUTCOMES CONSIDERED

- Freedom from local-regional occurrence
- Freedom from distant failure
- Freedom from any relapse
- Survival (disease-free and overall)
- Treatment toxicity

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Pertinent information from the published literature was retrieved and reviewed for the creation of these guidelines. Searches were done of MEDLINE (National Library of Medicine, Bethesda, Maryland) and other databases for pertinent articles as of May 1998, with additional articles and abstracts added as they appeared until July 2000. Directed searches were made of the primary articles. In addition, certain authors/investigators were contacted to obtain more recent and, in some cases, unpublished information.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Level and Type of Evidence

I. Evidence obtained from meta-analysis of multiple, well-designed, controlled studies. Randomized trials with low false-positive and low false-negative errors (high power).
II. Evidence obtained from at least one well-designed experimental study. Randomized trials with high false-positive and/or negative errors (low power).
III. Evidence obtained from well-designed, quasi-experimental studies such as nonrandomized, controlled single-group, pre-post, cohort, time, or matched case-control series.
IV. Evidence from well-designed, nonexperimental studies such as comparative and correlational descriptive and case studies.
V. Evidence from case reports and clinical examples.

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not applicable

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The entire panel met twice. The first meeting was intended to identify topics to be addressed by the guideline, to develop a strategy for completion of the guideline, and to do a preliminary review of the initial literature search; the second meeting was intended to review the developed guideline and to evaluate more critically the recommendations and supporting evidence. The guidelines were circulated in draft form, and all members of the Panel had an opportunity to comment on the levels of evidence as well as the systematic grading of the data supporting each recommendation. Final text editing was performed by Stephen Edge and Abram Recht.

Values: Levels of evidence and guideline grades were assigned by the Panel using standard criteria. A "recommendation" was made when level I or II evidence was available and there was consensus as to its meaning. A "suggestion" was made based on level III, IV, or V evidence and there was consensus as to its

meaning. Areas of clinical importance were pointed out where guidelines could not be formulated due to insufficient evidence or lack of consensus.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Grade of Recommendation

A. There is evidence of type I or consistent findings from multiple studies of types II, III, or IV.
B. There is evidence of types II, III, or IV, and findings are generally consistent.
C. There is evidence of types II, III, or IV, but findings are inconsistent.
D. There is little or no systematic empirical evidence.

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The guidelines were reviewed by seven outside reviewers, the American Society of Clinical Oncology Health Services Research Committee, and the American Society of Clinical Oncology Board.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Note: Levels of evidence (I-V) and grades of evidence (A-D, NG) for recommendations are defined at the end of the Major Recommendations field.

I. Patients With Four or More Positive Axillary Lymph Nodes

Guideline: Postmastectomy radiotherapy is recommended for patients with four or more positive axillary lymph nodes.
Level of Evidence: II
Grade of Recommendation: B

II. Patients With One to Three Positive Axillary Lymph Nodes

Guideline: There is insufficient evidence to make recommendations or suggestions for the routine use of postmastectomy radiotherapy in patients with T1/2 tumors with one to three positive nodes.

III. Patients With T3 or Stage III Tumors

Guideline: Postmastectomy radiotherapy is suggested for patients with T3 tumors with positive axillary nodes and patients with operable stage III tumors.
Level of Evidence: II, III
Grade of Recommendation: C

IV. Patients Undergoing Preoperative Systemic Therapy

Guideline: There is insufficient evidence to make recommendations or suggestions on whether all patients initially treated with preoperative systemic therapy should be given postmastectomy radiotherapy.

V. Modifications of These Guidelines for Special Patient Subgroups

Guideline: There is insufficient evidence to make recommendations or suggestions for modifying guidelines regarding the routine use of postmastectomy radiotherapy based on other tumor-related, patient-related, or treatment-related factors.

VI. Chest Wall Irradiation

Guideline: In patients given postmastectomy radiotherapy, the Panel suggests that adequately treating the chest wall is mandatory.
Level of Evidence: III
Grade of Recommendation: A

VII. Details of Chest Wall Irradiation

Guideline: There is insufficient evidence for the Panel to recommend or suggest such aspects of chest wall irradiation as total dose, fraction size, the use of bolus, and the use of scar boosts.

VIII. Axillary Nodal Irradiation

Guideline: The guideline developer suggests that full axillary radiotherapy not be given routinely to patients undergoing complete or level I/II axillary dissection. There is insufficient evidence to make suggestions or recommendations as to whether some patient subgroups might benefit from axillary irradiation.
Level of Evidence: III
Grade of Recommendation: B

IX. Supraclavicular Nodal Irradiation for Patients With Four or More Positive Axillary Lymph Nodes

Guideline: The incidence of clinical supraclavicular failure is sufficiently great in patients with four or more positive axillary nodes that the Panel suggests a supraclavicular field should be irradiated in all such patients.
Level of Evidence: III
Grade of Recommendation: A

X. Supraclavicular Nodal Irradiation for Patients With One to Three Positive Axillary Lymph Nodes

Guideline: There is insufficient evidence to state whether a supraclavicular field should or should not be used for patients with one to three positive axillary nodes.

XI. Internal Mammary Nodal Irradiation

Guideline: There is insufficient evidence to make suggestions or recommendations on whether deliberate internal mammary nodal irradiation should or should not be used in any patient subgroup.

XII. Sequencing of Postmastectomy Radiotherapy and Systemic Therapy

Guideline: There is insufficient evidence to recommend the optimal sequencing of chemotherapy, tamoxifen, and postmastectomy radiotherapy. The Panel does suggest, based on the available evidence regarding toxicities, that doxorubicin not be administered concurrently with postmastectomy radiotherapy.

XIII. Integration of Postmastectomy Radiotherapy and Reconstructive Surgery

Guideline: There is insufficient evidence to make recommendations or suggestions with regard to the integration of postmastectomy radiotherapy and reconstructive surgery.

XIV. Long-Term Toxicities

Guideline: The potential long-term risks of postmastectomy radiotherapy include lymphedema, brachial plexopathy, radiation pneumonitis, rib fractures, cardiac toxicity, and radiation-induced second neoplasms. Data would suggest that the incidence of many of these toxicities will be lower when modern radiotherapy techniques are used, although follow-up in patients treated with current radiotherapy is insufficient to rule out the possibility of very late cardiac toxicities. In reviewing the available evidence with its limitations, however, the Panel suggests that, in general, the risk of serious toxicity of postmastectomy radiotherapy (when performed using modern techniques) is low enough that such considerations of toxicity should not limit its use in most circumstances when otherwise indicated.
Level of Evidence: II, III
Grade of Recommendation: B

XV. Toxicity Considerations for Special Patient Subgroups

Guideline: There is insufficient evidence to make recommendations or suggestions that postmastectomy radiotherapy should not be used for some subgroups of patients because of increased rates of toxicity (such as radiation carcinogenesis) compared with the rest of the population.

Level of Evidence: IV
Grade of Recommendation: D

Definitions:

Level and Type of Evidence

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IV. Evidence from well-designed, nonexperimental studies such as comparative and correlational descriptive and case studies.
V. Evidence from case reports and clinical examples.

Grade for Recommendation

A. There is evidence of type I or consistent findings from multiple studies of types II, III, or IV.
B. There is evidence of types II, III, or IV, and findings are generally consistent.
C. There is evidence of types II, III, or IV, but findings are inconsistent.
D. There is little or no systematic empirical evidence.

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There is little or no systematic empirical evidence.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (See Major Recommendations).

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Postmastectomy radiotherapy reduces the risk of local-regional failure and increases the long-term survival rate for a substantial proportion of women with positive axillary nodes treated with systemic therapy.

Subgroups Most Likely to Benefit:

- Patients with four or more positive axillary lymph nodes.
- Patients with T3 tumors with positive axillary lymph nodes and patients with operable Stage III tumors.

POTENTIAL HARMS

Long-term risks of postmastectomy radiotherapy, such as lymphedema, brachial plexopathy, radiation pneumonitis, rib fractures, cardiac complications, and radiation carcinogenesis.

QUALIFYING STATEMENTS

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It is important to realize that these guidelines cannot always account for individual variation among patients. They are not intended to supplant physician judgment with respect to particular patients or special clinical situations and cannot be considered inclusive of other treatments reasonably directed at obtaining the same results. Accordingly, the American Society of Clinical Oncology (ASCO) considers adherence to these guidelines to be voluntary, with the ultimate determination regarding their application to be made by the physician in light of each patient's individual circumstances. In addition, these guidelines describe administration of therapies in clinical practice; they cannot be assumed to apply to interventions performed in the context of clinical trials, given that clinical studies are designed to test innovative and novel therapies in a disease for which better therapy is sorely needed. In that guideline development involves a review and synthesis of the latest literature, a practice guideline also served to identify important questions for further research and those settings in which investigational therapy should be considered.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Living with Illness

IOM DOMAIN

Effectiveness
Safety

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Recht A, Edge SB, Solin LJ, Robinson DS, Estabrook A, Fine RE, Fleming GF, Formenti S, Hudis C, Kirshner JJ, Krause DA, Kuske RR, Langer AS, Sledge GW, Whelan TJ, Pfister DG. Postmastectomy radiotherapy: clinical practice guidelines of the American Society of Clinical Oncology. J Clin Oncol 2001 Mar 1;19(5):1539-69. [253 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2000 Nov 3

GUIDELINE DEVELOPER(S)

American Society of Clinical Oncology - Medical Specialty Society

SOURCE(S) OF FUNDING

American Society of Clinical Oncology

GUIDELINE COMMITTEE

American Society of Clinical Oncology (ASCO) Postmastectomy Radiotherapy Expert Panel

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

The Panel was composed of experts in clinical medicine, clinical research, and outcomes/health services research, with a focus on expertise in breast cancer. A patient representative was also included on the Panel. The clinical experts represented all relevant medical disciplines, including surgery, medical oncology, and radiation oncology. Both academic and community practitioners were included. A steering committee under the auspices of the American Society of Clinical Oncology (ASCO) Health Services Research Committee chose Panel participants for the clinical practice guidelines development process.

Panel Members: Stephen B. Edge, MD, Co-Chair; Abram Recht, MD, Co-Chair; Alison Estabrook, MD; Richard E. Fine, MD; Gini F. Fleming, MD; Silvia Formenti, MD; Clifford Hudis, MD; Jeffrey J. Kirshner, MD; David A. Krause, MD; Robert R.

Kuske, MD; Amy S. Langer; David S. Robinson, MD; George W. Sledge, Jr, MD; Lawrence J. Solin, MD; Timothy J. Whelan, MB, ChB.

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

All members of the expert panel complied with the American Society of Clinical Oncology (ASCO) policy on conflict of interest, which requires disclosure of any financial or other interest that might be construed as constituting an actual, potential, or apparent conflict. Members of the expert panel completed ASCO's disclosure form and were asked to reveal ties to companies developing products that might potentially be affected by promulgation of the guidelines. Information was requested regarding employment, consultancies, stock ownership, honoraria, research funding, expert testimony, and membership on company advisory committees. The Panel made decisions on a case-by-case basis as to whether an individual's role should be limited as a result of a conflict. There were no conflicts of interest requiring such limitations.

GUIDELINE STATUS

This is the current release of the guideline.

An update is not in progress at this time.

GUIDELINE AVAILABILITY

Electronic copies: Available from the American Society of Clinical Oncology (ASCO) Web site.

Print copies: Available from the American Society of Clinical Oncology, Health Services Research Department, 1900 Duke St, Suite 200, Alexandria, VA 22314.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on May 25, 2001. It was verified by the guideline developer as of September 7, 2001.

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Date Modified: 11/8/2004